Aug. 30, 1938. A. G. ROACH 2,128,539

PLATFORM CANOPY

Filed Oct. 23, 1936 2 Sheets-Sheet 1

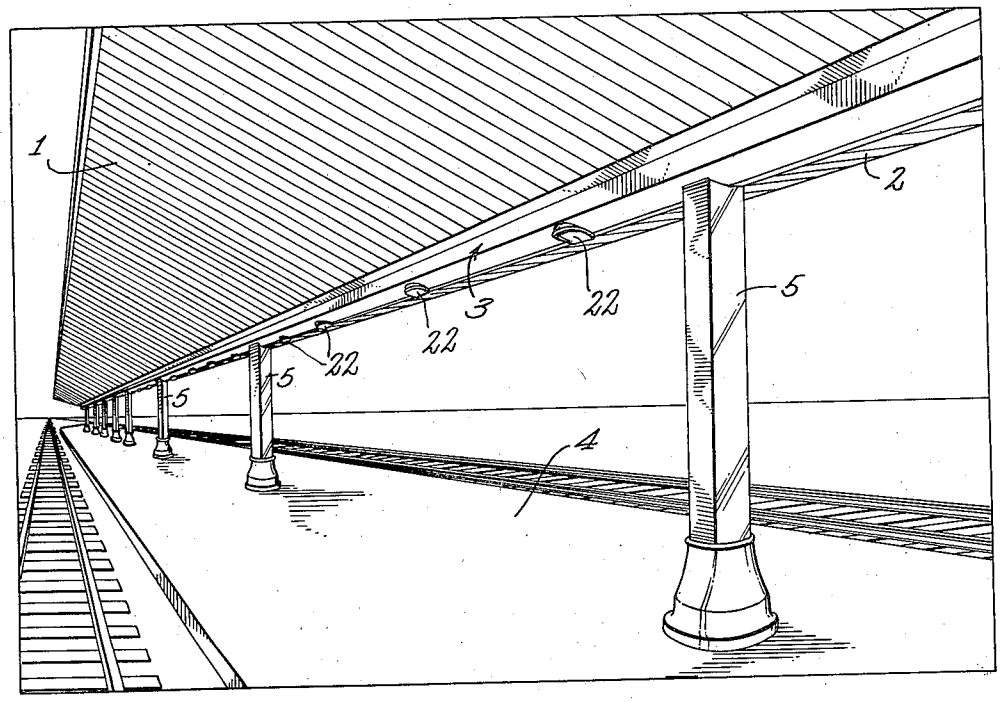


Fig. 1.

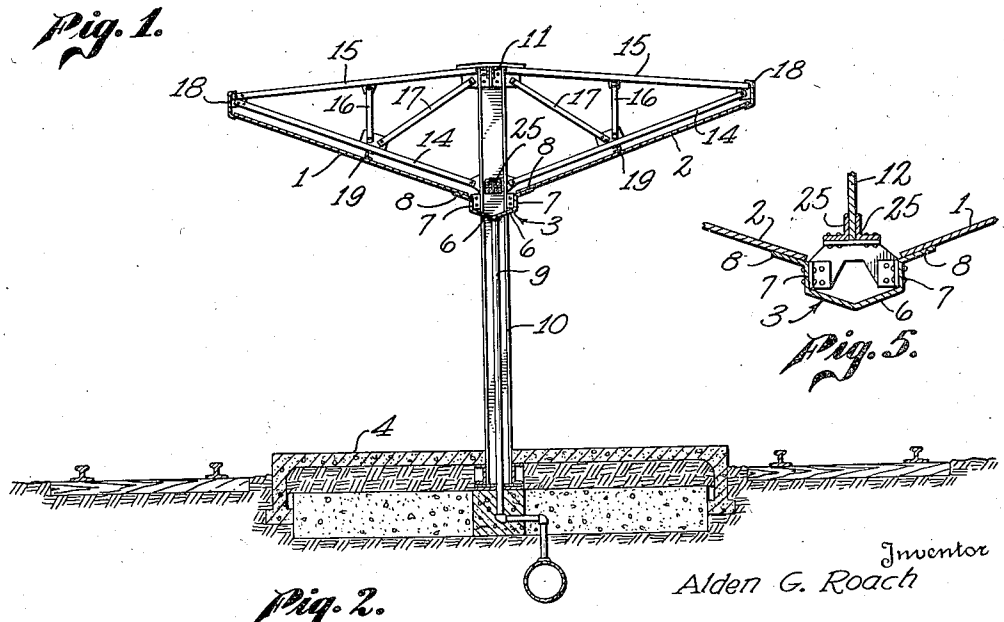


Fig. 2.

Fig. 5.

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Filed Oct. 23, 1936 2 Sheets-Sheet 2

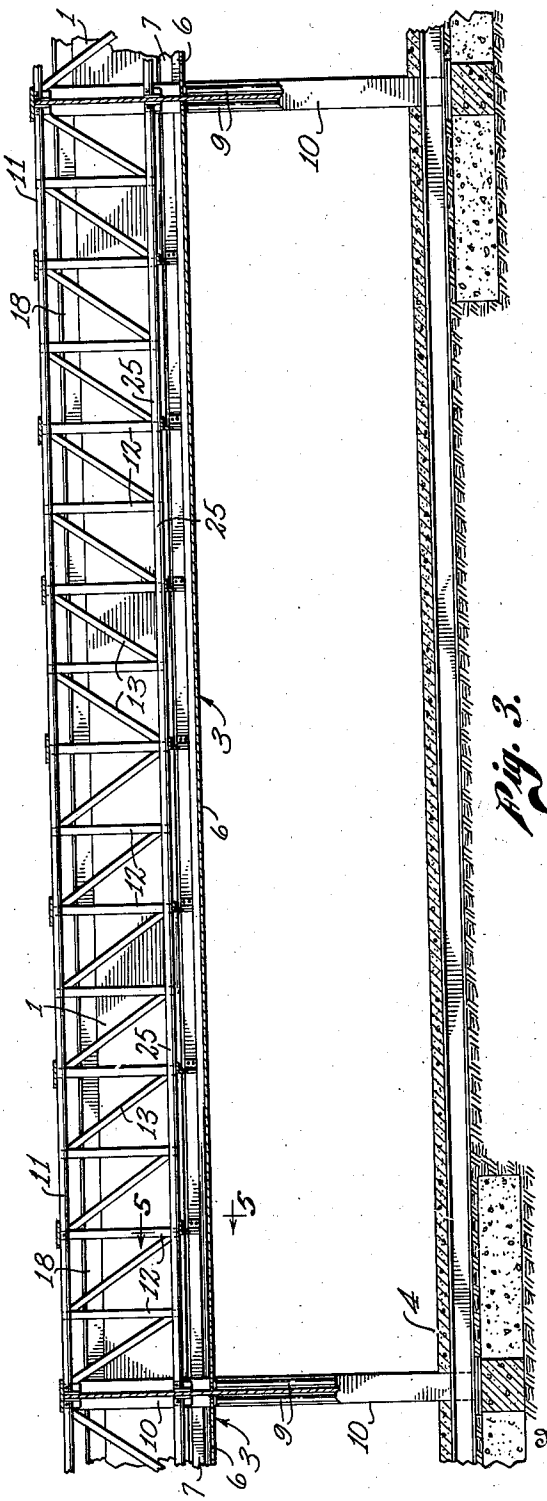


Fig. 3.

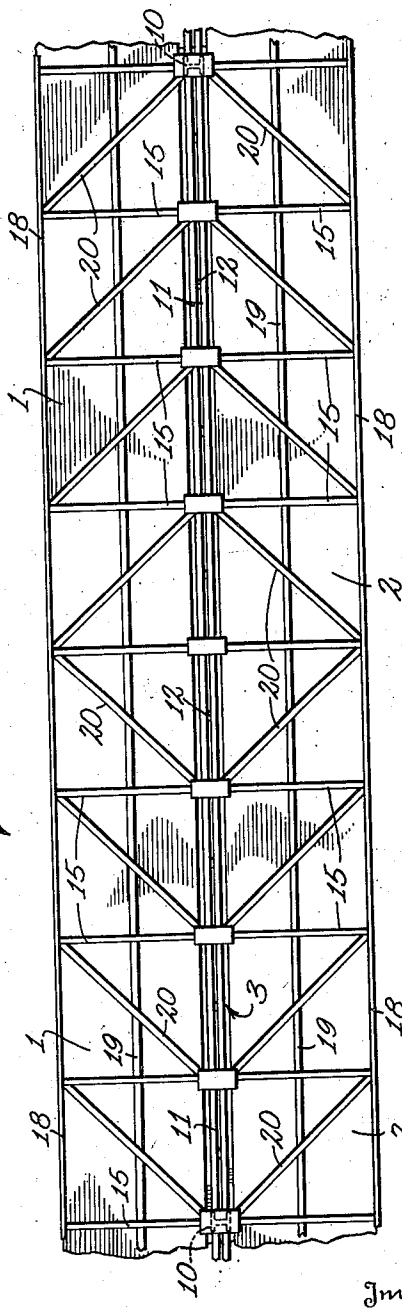


Fig. 4.

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PLATFORM CANOPY

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Application October 23, 1936, Serial No. 107,199

1 Claim. (Cl. 108—1)

This invention relates to the building art and particularly to roof or shed structures for protecting relatively long narrow areas from the elements. It has special application to canopies over railway station platforms to protect passengers from sun, rain, hail and snow while they are waiting for, boarding or leaving trains.

The usual requirements of a platform canopy are that it shield effectively the area to be protected, be supported in such manner as to interfere as little as possible with free movement of traffic on the platform, and present a pleasing appearance. To produce effective shielding it is old practice to employ canopies of V section in which the longitudinal edges are higher than the mid section, thereby constituting a trough for receiving precipitation and conducting it away through suitable drain pipes. Such canopies have sometimes been described as being of the butterfly type. It has been the practice to support such butterfly canopies by central pillars rising from the platform. However, if numerous closely positioned pillars are employed they interfere with traffic on the platform. This objection can be remedied by increasing the span between the pillars but this method requires that the rigidity of the canopy be increased by the use of braces, trusses, etc., which, as heretofore employed, have been positioned below the canopy proper, thereby making the canopy unsightly or unattractive in appearance.

The chief object of the present invention is to provide a canopy structure of the butterfly type that is effective as a shield, requires few pillars for its support, and at the same time is neat and attractive in appearance.

I achieve this object by placing all the reinforcing braces, trusses, etc. (necessitated by long spans between pillars) above the trough-shaped surface of the canopy whereby they are completely concealed from view to people therebelow.

The invention will now be explained by describing a particular embodiment thereof with reference to the drawings. Various specific objects and features of the invention will appear from this description.

In the drawings:

Fig. 1 is a perspective view of a platform canopy in accordance with the invention;

Fig. 2 is a cross section showing various structural features of the canopy;

Fig. 3 is a longitudinal sectional view; and

Fig. 4 is a plan view showing various structural details of the canopy.

Fig. 5 is a detailed sectional view taken along the line V—V of Fig. 3.

Referring first to Fig. 1, the canopy therein depicted consists of two roof elements 1 and 2, respectively, which slope downwardly and inwardly and converge above a central longitudinal beam member 3. The elements 1, 2 and 3 are shown supported above a platform 4 by a row of pillars 5 which extend through the central beam 3.

Referring now to Figs. 2, 3 and 4, it will be observed that the longitudinal central beam 3 is of channel section provided with a V-shaped bottom wall 6, vertical side walls 7 extending thereabove and wings 8 extending outwardly and upwardly from the upper edges of the side walls 7. The wings 8 support the inner edges of the roof members 1 and 2, respectively, the latter lying above the wings 8 to permit free drainage from the roof members 1 and 2 into the channel beam 3 which then functions as a gutter to carry off the water. Drain pipes 9 positioned within the pillars 5 in turn convey the water away from the channel beam 3.

As shown in the perspective view of Fig. 1, the pillars 5 are rectangular in cross section. However, I prefer to employ as the main structural elements of these pillars H section columns 10, as shown in Figs. 2, 3 and 4. These H columns 10 may be encased in sheet metal covers or encased in molded concrete to protect them and improve their appearance. Thus the visible portions of the pillars 5 in Fig. 1 may consist of either sheet metal or concrete enclosing an H column therewithin.

The H columns 10 extend through the central beam 3 and terminate a distance thereabove slightly higher than the outer edges of the roof sections 1 and 2. The central beam 3, of course, is anchored to each pillar 10.

Referring now to Fig. 3, in addition to the central longitudinal beam member 3, there are upper and lower truss members 11 and 25 extending the length of the canopy and secured to each H column 10. These upper and lower members 11 and 25 constitute the upper and lower chords, respectively, of a truss and are interconnected by vertical braces 12 and diagonal braces 13, the whole constituting a rigid structure capable of supporting the weight of the central beam member 3 and of the canopy between the columns.

As previously indicated, the inner edges of the roof members 1 and 2 are supported directly upon the outwardly and upwardly extending wings 8 of the central longitudinal beam 3. The middle

and outer portion of each roof member 1 and 2 are supported from the beam members 25 and 11 by a plurality of transversely extending frames as shown in Figs. 2 and 4.

Referring to Fig. 2, each transverse frame includes a pair of upwardly and outwardly extending rafter elements 14 which are secured at their inner ends to the lower central beam 25 and are connected at their outer ends to upper beam members 15, the inner ends of the latter being secured to the upper truss beam 11. The transverse structure is further braced by means of vertical braces 16 extending between the members 14 and 15, respectively, and diagonal braces 17 extending from the members 14 to the upper truss beam 11. The transverse members 15 support at their outer ends longitudinal moldings 18 which are bent inwardly at their lower edges to underlap and support the outer edges of the roof members 1 and 2. Roof members 1 and 2 are also supported adjacent their center lines by being secured to longitudinal members 19 which are in turn secured to the transverse members 14.

To further brace the structure against transverse loadings, diagonal braces 20 (Fig. 4) are extended between the transverse members 14 and also between the transverse members 15.

The roof elements 1 and 2 may be made of various materials since they are supported at fairly closely spaced points so that the roof members themselves do not have to have great strength. A thin sheet of steel or other sheet metal is suitable for this purpose and to strengthen the elements and improve the appearance this material may be fluted transversely as shown in Fig. 1.

For illuminating the platform, lamps 22 may be mounted in the central beam 3 to project light therebelow.

By virtue of the construction described, a platform canopy can be constructed employing pillars spaced substantial distances apart while still retaining all the rigidity required for safety. At the same time the various brace and truss structures necessary to provide the rigidity are concealed from view and the canopy has a symmetrical clean-cut appearance instead of the skeleton appearance usual in prior steel canopy construction.

It is to be understood that a specific embodiment of the invention has been described in detail only for the purposes of explaining the invention and that various detail bracing and strengthening structures other than those disclosed and described may be employed without departing from my invention and the invention is to be limited only as set forth in the appended claim.

I claim:

A structure of the type described comprising a row of upstanding pillars, said pillars being spaced apart substantial distances longitudinally, an upper truss member extending longitudinally and secured to the upper ends of said pillars, a lower truss member extending longitudinally and intersecting said pillars at a level spaced below the upper ends thereof, and a central longitudinal beam member extending longitudinally below said lower truss member and intersecting said pillars at a level therebelow, means connecting said last mentioned beam member to said lower truss member at longitudinally spaced points therealong, said last mentioned beam member comprising a channel-shaped structural element having upwardly and outwardly extending edges, braces extending between said upper and lower truss members for reinforcing the latter between pillars, transverse frame members extending outwardly from said truss members, longitudinal supporting members secured to the outer ends of said transverse members and having inwardly and downwardly extending edges and a pair of roof members supported at their inner and outer edges, respectively, by said upwardly and outwardly extending edges on said central beam and the inwardly and downwardly extending edges of said longitudinal supporting members, respectively.

ALDEN G. ROACH.